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Serial No. 09/885471

IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE

## PATENT APPLICATION

Inventor(s): **Sang-Wook Cheong**  
**Namjung Hur**

Case: **5-1**Serial No.: **09/885471**Filing Date: **June 20, 2001**Examiner: **E. Fuller**Group Art Unit: **1762**Title: **MgB<sub>2</sub> Superconductors**

COMMISSIONER FOR PATENTS

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ALEXANDRIA, VA 22313-1450

SIR:

Certificate  
APR 28 2006  
of Correction

## CERTIFICATE OF CORRECTION

Enclosed is a request for a Certificate of Correction for U.S. Patent No. 6,878,420 issued on April 12, 2005 requesting a correction to the title of the patent.

In the issued patent, the title is "MGB<sub>2</sub> SUPERCONDUCTORS" rather than "MgB<sub>2</sub> SUPERCONDUCTORS" as shown at page 1 of the filed application (enclosed). The symbol "MG" is incorrect, because "Mg" and not "MG" is the recognized scientific abbreviation for the element "magnesium". Since page 1 of the filed application shows the title correctly, it appears that the U.S. Patent and trademark Office made a printing error. Also enclosed is a copy of the first page of the above patent application.

This is a USPTO error and therefore **no fee** should be due for the filing of this Certificate of Correction.

In the event of any non-payment or improper payment of a required fee, the Commissioner is authorized to charge or to credit **Lucent Technologies Deposit Account No. 12-2325** as required to correct the error.

Respectfully,

John F. McCabe, Attorney

Reg. No. 42854

908-582-6866

Date: April 19, 2006

Docket Administrator (Room 3J-219)

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Date of Deposit	<u>April 19, 2006</u>
I hereby certify that this correspondence is being deposited with the United States Postal Service in a First Class Mail envelope on the date indicated above and is addressed to:	
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Signature of person mailing paper or fee	<u>Catherine F. Dugan</u>

MAY 1 2006

UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION

Page 1 of 1

PATENT NO. : 6,878,420  
APPLICATION NO.: 09/885,471  
ISSUE DATE : April 12, 2005  
INVENTOR(S) : Sang-Wook Cheong and Namjung Hur

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

At page 1, column 1,

the title on the above patent application should be changed  
from:

"MGB<sub>2</sub> SUPERCONDUCTORS" to

--MGB<sub>2</sub> SUPERCONDUCTORS --.

MAILING ADDRESS OF SENDER (Please do not use customer number below): **Lucent Technologies**  
**Docket Administrator, Rm. 3J-219**  
**101 Crawfords Corner Road**  
**Holmdel, NJ 07733-3030**

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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## **MgB<sub>2</sub> SUPERCONDUCTORS**

This application claims the benefit of U.S. Provisional Application No. 60/275,067, filed on March 12, 2001.

### **BACKGROUND**

#### Field of the Invention

This invention relates to superconductors and devices based on superconductors.

#### 5 Discussion of the Related Art

Recently, Akitmitsu et al. discovered that a well-known compound, i.e., MgB<sub>2</sub>, exhibits superconductivity at temperatures lower than about 39 Kelvin (K). Powders formed of MgB<sub>2</sub> are produced by chemically reacting magnesium (Mg) and boron (B) at a temperature in the range of about 800° Celsius to about 950° Celsius (C). Powders of  
10 polycrystalline MgB<sub>2</sub> in which individual crystalline grains of MgB<sub>2</sub> have diameters in the range of about 1 micron to about 50 microns are available commercially.

### **SUMMARY**

In one aspect, the invention features a solid structure. The structure includes a  
15 substrate and a layer located on a surface of the substrate. The layer includes crystalline or polycrystalline MgB<sub>2</sub>.

In another aspect, the invention features a process for making a thin-layer device. The process includes providing a solid body of MgB<sub>2</sub> and ejecting MgB<sub>2</sub> from the body by directing laser light onto the body. The process also includes growing a layer on a  
20 surface of a substrate from a portion of the ejected MgB<sub>2</sub>.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

Figure 1 is a magnified view of a portion of a solid polycrystalline body formed of MgB<sub>2</sub>;

25 Figure 2 is a flow chart for a process of producing the body of Figure 1;

Figure 3 shows a structure that includes a thin layer of MgB<sub>2</sub>;